

AMENDMENTS TO THE CLAIMS

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

1. (Previously Presented) A thin film semiconductor device, comprising:

a flexible substrate;

a semiconductor chip, which is formed on the flexible substrate;

a protective cap, which seals the semiconductor chip; and

an insulating region, which is formed on the protective cap.
2. (Original) The thin film semiconductor device as claimed in claim 1, wherein the tensile strength of the protective cap is greater than about 30 GPa.
3. (Previously Presented) The thin film semiconductor device as claimed in claim 1, wherein the hardness of the protective cap is greater than about 200 Brinell.
4. (Original) The thin film semiconductor device as claimed in claim 1, wherein the protective cap is formed on an upper surface of the semiconductor device.
5. (Original) The thin film semiconductor device as claimed in claim 1, wherein the protective cap is formed on an upper surface of the semiconductor chip and between the semiconductor chip and the flexible substrate.

6. (Original) The thin film semiconductor device as claimed in claim 1, wherein the semiconductor chip is one selected from the group consisting of a thin film transistor (TFT), a thin film diode (TFD), and a metal insulator metal (MIM).

7. (Original) The thin film semiconductor device as claimed in claim 1, wherein the protective cap is formed of one selected from the group consisting of an ultraviolet curing resin, an X-ray curing material, an electronic beam curing material, and an ion beam curing material.

8. (Original) The thin film semiconductor device as claimed in claim 1, wherein the flexible substrate is formed of one selected from the group consisting of plastic and a thin metal film.

9. (Original) The thin film semiconductor device as claimed in claim 1, wherein the flexible substrate is a glass substrate having a thickness less than about 100 μm .

10. (Previously Presented) An electronic device including a flexible substrate and a semiconductor chip formed on the flexible substrate, the electronic device comprising a protective cap that seals the semiconductor chip, and an insulating region, which is formed on the protective cap.

11. (Original) The electronic device as claimed in claim 10, wherein the tensile strength of the protective cap is greater than about 30 GPa.

12. (Previously Presented) The electronic device as claimed in claim 10, wherein the hardness of the protective cap is greater than about 200 Brinell.

13. (Original) The electronic device as claimed in claim 10, wherein the protective cap is formed on an upper surface of the semiconductor chip.

14. (Original) The electronic device as claimed in claim 10, wherein the protective cap is formed on an upper surface of the semiconductor chip and between the semiconductor chip and the flexible substrate.

15. (Original) The electronic device as claimed in claim 10, wherein the semiconductor chip is one selected from the group consisting of a thin film transistor (TFT), a thin film diode (TFD), and a metal insulator metal (MIM).

16. (Original) The electronic device as claimed in claim 10, wherein the protective cap is formed of one selected from the group consisting of an ultraviolet curing resin, an X-ray curing material, an electronic beam curing material, and an ion beam curing material.

17. (Original) The electronic device as claimed in claim 10, wherein the flexible substrate is formed of one selected from the group consisting of plastic and a thin metal film.

18. (Original) The electronic device as claimed in claim 10, wherein the flexible substrate is a glass substrate having a thickness less than about 100 μm .

19. (Original) The electronic device as claimed in claim 10 further comprising a liquid crystal display (LCD) or an organic light emitting diode (OLED) connected to the semiconductor chip.

20-66. (Canceled)

67. (Previously Presented) The thin film semiconductor device as claimed in claim 1, wherein the semiconductor chip comprises:

- an active semiconductor element formed on the flexible substrate, the active semiconductor element including a source, a drain, and a channel;
- an insulating region formed on the active semiconductor element;
- a gate electrode formed on the insulating region;
- a second insulating region formed on the gate electrode;
- a source electrode formed on the second insulating region and connected with the source;
- a drain electrode formed on the second insulating region and connected with the drain, and

wherein the protective cap is formed on the second insulating region and on the source and drain electrodes.

68. (Previously Presented) The thin film semiconductor device as claimed in claim 67, further comprising:

- a third insulating region formed on the protective cap;
- a first pixel electrode formed on the third insulating region;
- a pixel element formed on the first pixel electrode; and
- a second pixel electrode formed on the pixel element.

69. (Previously Presented) A semiconductor device, comprising:

- a flexible substrate;
- a semiconductor chip formed on the flexible substrate; and
- a protective material surrounding the semiconductor chip, wherein the protective material is on a surface of the semiconductor chip that is adjacent to the flexible substrate and is on a surface of the semiconductor chip that is opposite the flexible substrate.

70. (Previously Presented) The semiconductor device as claimed in claim 69, wherein the tensile strength of the protective material is greater than about 30 GPa.

71. (Previously Presented) The semiconductor device as claimed in claim 69,
wherein the semiconductor chip comprises:

an active semiconductor element formed on a region of the protective material, the active semiconductor element including a source, a drain, and a channel, wherein a portion of the region of the protective material extends laterally beyond the active semiconductor element;

an insulating region formed on the active semiconductor element;

a gate electrode formed on the insulating region;

a second insulating region formed on the gate electrode;

a source electrode formed on the second insulating region and connected with the source;

a drain electrode formed on the second insulating region and connected with the drain, and

wherein a second region of the protective material is formed on the second insulating region, and on the source and drain electrodes, and on the portion of the region of the protective material that extends laterally beyond the active semiconductor element.

72. (New) A thin film transistor liquid crystal display, comprising:
a driving unit formed on a flexible substrate, the driving unit including a capping layer that forms an upper surface of the driving unit and contacts the flexible substrate;
a pixel unit; and
an insulating layer disposed between the driving unit and the capping layer, wherein:
the pixel unit is connected to the driving unit by a conductive element that passes through the insulating layer and the protective cap, and
the capping layer has a tensile strength higher than about 30 GPa and a hardness higher than about 200 Brinell.

73. (New) A semiconductor device, comprising:
a flexible substrate;
a semiconductor chip formed on the flexible substrate; and
a protective material surrounding the semiconductor chip, wherein the protective material is formed on an upper surface and a side surface of the semiconductor chip and between the semiconductor chip and the flexible substrate.